

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 11 NOV 2005

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Applicant's or agent's file reference TXEX 513814 137472		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/BE2004/000122		International filing date (day/month/year) 27.08.2004		Priority date (day/month/year) 27.08.2003
International Patent Classification (IPC) or national classification and IPC B29C44/12, B29C44/08				
Applicant RECTICEL				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 27.06.2005		Date of completion of this report 10.11.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Pipping, L Telephone No. +31 70 340-3430 		

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**INTERNATIONAL PRELIMINARY REPORT
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International application No.
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-26 as originally filed

Claims, Numbers

6(part), 7-29 as originally filed
1-5, 6(part) filed with telefax on 06.10.2005

Drawings, Sheets

1/9-9/9 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
 - ☒ claims Nos. 14-29
because:
 - ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
 - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
 - ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
 - ☒ no international search report has been established for the said claims Nos. 14-29
 - ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
 - ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
 - ☒ See separate sheet for further details

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	10
	No: Claims	1-9, 11-13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item III.

- 1 Although claims 1, 14 and 25 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

The application is considered as being unitary of invention because it refers to, cf. claims 1, 14 and 25, "A method for manufacturing a composite trim part which is arranged to be mounted in particular in an automotive vehicle to form a part of the interior thereof and which comprises a three-dimensionally shaped laminate of a flexible skin layer (1), a rigid backing substrate layer (2) and an intermediate layer (3), in particular a foam layer, arranged between the flexible skin layer and the rigid substrate layer and adhering the flexible skin layer and the rigid substrate layer to one another".

Since it has to be assumed that the matter for which protection is sought is contained by independent claim 1, claims 14-29 will not be considered with respect to novelty and inventive step in this international preliminary report.

Re Item V.

- 1.1 The following documents are referred to in this communication:

D2: GB-A-1 263 620

D5: EP-A-0 563 670

2 INDEPENDENT CLAIM 1

- 2.1 The document D2 is regarded as being the closest prior art to the subject-matter of claim 1, cf. page 2, lines 64-74 and page 2, line 114-page 3, line 9, and discloses (the references in parenthesis applying to this document): a method for

manufacturing a composite trim part which is arranged to be mounted in particular in an automotive vehicle to form a part of the interior thereof and which comprises a three-dimensionally shaped laminate of a flexible skin layer (14), a rigid backing substrate layer (6) and an intermediate layer, in particular a foam layer (11), arranged between the flexible skin layer and the rigid substrate layer and adhering the flexible skin layer and the rigid substrate layer to one another, the method comprising the steps of: providing a mould (8, 9) comprising a first mould half (8), having a first mould surface with a predetermined three-dimensional shape, and a second mould half (9), having a second mould surface with a further predetermined three-dimensional shape, the first and second mould halves being movable with respect to one another to open and close said mould (8, 9) and defining a first mould cavity in the closed mould position; forming the flexible skin layer (14) with its front side against the first mould surface according to a low pressure forming process; forming said rigid substrate layer (6) with its back side against the second mould surface; bringing both mould halves (8, 9) together to close the mould (8, 9), with a gap remaining between the skin layer (14) on the first mould surface and the substrate layer (6) on the second mould surface; applying a curable material between the skin layer (14) on the first mould surface and the substrate layer (6) on the second mould surface, and allowing it to cure in the closed position of the mould (8, 9) to produce the intermediate layer (11) in said gap, the curable material being in particular a foamable material which is allowed to foam in the closed position of the mould (8, 9); and opening the mould (8, 9) and removing the moulded trim part therefrom, wherein said substrate layer (6) is formed with its back side against the second mould surface by pouring liquid plastics material upon the lid of the mould.

The subject-matter of claim 1 therefore differs from this known method in that the substrate layer is formed according to a low pressure forming process being selected from the group consisting of a spray process, a reaction injection moulding process, a liquid slush moulding process, a powder slush moulding process and a thermoforming process.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as how

to mould a substrate layer which is not flat, see page 6, lines 21-25.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because thermoforming the substrate is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed, cf. D5, column 2, line 18-37 where two thermoformed sheets are joined by a foamed interlayer.

3.1 DEPENDENT CLAIMS 3-6, 8, 9, 13

Dependent claims 3-6, 8 and 13 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(2) and (3) PCT), see the search report. In claim 9 an "electrical and/or mechanical component" is claimed. A mechanical component can be found in D2, see reference no. 7 in the figures.

3.2 DEPENDENT CLAIMS 2, 7, 11 and 12

Dependent claims 2, 7, 11 and 12 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(2) and (3) PCT), because the features of these claims are merely chosen from several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

3.3 DEPENDENT CLAIM 10

The combination of the features of dependent claim 10 is neither known from, nor rendered obvious by the available prior art, because none of the documents cited in the search report suggests that electrical components are embedded in the substrate and the skin layers respectively, which make contact with each other upon closing the mould cavity.

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- The above solution solves the problem of how to install an electrical component in a composite trim part.

- 4 **INDUSTRIAL APPLICABILITY**

All claims fulfill the requirements of industrial applicability.

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CLAIMS

1. A method for manufacturing a composite trim part which is arranged to be mounted in particular in an automotive vehicle to form a part of the interior thereof and which comprises a three-
- 5 dimensionally shaped laminate of a flexible skin layer (1), a rigid backing substrate layer (2) and an intermediate layer (3), in particular a foam layer, arranged between the flexible skin layer and the rigid substrate layer and adhering the flexible skin layer and the rigid substrate layer to one another, the method comprising the steps of:
- 10 – providing a mould (5, 8) comprising a first mould half (5), having a first mould surface (4) with a predetermined three-dimensional shape, and a second mould half (8), having a second mould surface (7) with a further predetermined three-dimensional shape, the first and second mould halves being movable with respect to one another to open and
- 15 close said mould (5, 8) and defining a first mould cavity (11) in the closed mould position;
- forming the flexible skin layer (1) with its front side against the first mould surface (4) according to a low pressure forming process;
- forming said rigid substrate layer (2) with its back side against the
- 20 second mould surface (7);
- bringing both mould halves (5, 8) together to close the mould (5, 8), with a gap remaining between the skin layer (1) on the first mould surface (4) and the substrate layer (2) on the second mould surface (7);
- 25 – applying a curable material between the skin layer (1) on the first mould surface (4) and the substrate layer (2) on the second mould surface (7), and allowing it to cure in the closed position of the mould (5, 8) to produce the intermediate layer (3) in said gap, the curable material being in particular a foamable material which is allowed to
- 30 foam in the closed position of the mould (5, 8) ; and

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- - opening the mould (5, 8) and removing the moulded trim part therefrom,
- characterised in that said substrate layer (2) is formed with its back side against the second mould surface (7) according to a further low pressure forming process, said low pressure forming process and said further low pressure forming process being selected, independently from one another, from the group consisting of a spray process, a reaction injection moulding process, a liquid slush moulding process, ~~or a powder~~ slush moulding process and a thermoforming process.